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Class Counsel

**UNITED STATES DISTRICT COURT
CENTRAL DISTRICT OF CALIFORNIA**

KEITH ANDREWS, an individual,
TIFFANI ANDREWS, an individual,
BACIU FAMILY LLC, a California
limited liability company, ROBERT
BOYDSTON, an individual, MORGAN
CASTAGNOLA, an individual, THE
EAGLE FLEET, LLC, a California limited
liability company, ZACHARY FRAZIER,
an individual, MIKE GANDALL, an
individual, ALEXANDRA B. GEREMIA,
as Trustee for the Alexandra Geremia
Family Trust dated 8/5/1998, JIM
GUELKER, an individual, JACQUES
HABRA, an individual, MARK
KIRKHART, an individual, MARY
KIRKHART, an individual, RICHARD
LILYGREN, an individual, HWA HONG
MUH, an individual, OCEAN ANGEL IV,
LLC, a California limited liability
company, PACIFIC RIM FISHERIES,
INC., a California corporation, SARAH
RATHBONE, an individual,
COMMUNITY SEAFOOD LLC, a
California limited liability company,
SANTA BARBARA UNI, INC., a
California corporation, SOUTHERN CAL
SEAFOOD, INC., a California
corporation, TRACTIDE MARINE
CORP., a California corporation, WEI
INTERNATIONAL TRADING INC., a
California corporation and STEPHEN
WILSON, an individual, individually and
on behalf of others similarly situated,

Plaintiffs,

v.

PLAINS ALL AMERICAN PIPELINE,
L.P., a Delaware limited partnership,
PLAINS PIPELINE, L.P., a Texas limited
partnership, and JOHN DOES 1 through
10,

Defendants.

Case No. 2:15-cv-04113-PSG-JEM

[Consolidated with Case Nos. 2:15-CV-04573 PSG (JEMx), 2:15-CV-4759 PSG (JEMx), 2:15-CV-4989 PSG (JEMx), 2:15-CV-05118 PSG (JEMx), 2:15-CV-07051- PSG (JEMx)]

**DECLARATION AND
SUPPLEMENT TO AUGUST 30,
2019 REPORT OF HUNTER S.
LENIHAN, Ph.D. RE: ADDITIONAL
DOCUMENTS CONSIDERED**

Date: May 18, 2020
Time: 1:30 p.m.
Location: Courtroom 6A
Judge: Hon. Philip S. Gutierrez

1 I, Hunter S. Lenihan, Ph.D., declare as follows:

2 1. I am a Professor of Applied Marine and Fisheries Ecology at the Bren
3 School of Environmental and Science Management at the University of California, Santa
4 Barbara ("UCSB"). I am also the founder of the Sustainable Aquaculture Research
5 Center. I have been retained by Class Counsel in this matter.

6 2. The purpose of this declaration is to supplement my August 30, 2019
7 Amended and Supplemental Report to identify recently published research that I received
8 and considered after completion of my August 2019 report. This new research relates to
9 but does not alter my opinions in this matter. In particular, the additional research is
10 consistent with and reinforces my opinions in Paragraphs 26 and 27 of my August 2019
11 report that "very low levels of PAHs can reduce demographic performance" and that
12 "even PAH concentrations of less than 1 ppb are harmful to fish. . . ."

13 3. The research appears in a paper published in March 2020, arising out of the
14 Deepwater Horizon spill, which presents the results of recent analysis showing that PAH
15 levels less than 1 ppb are lethal to a wide variety of marine organisms. Berenshtein, I.,
16 Paris, C.B., Perlin, N., Alloy, M.M., Joye, S.B. and Murawski, S., 2020. Invisible oil
17 beyond the Deepwater Horizon satellite footprint. Science Advances, 6(7). The authors
18 report that, once one takes account of photoinduced toxicity of PAHs (the process by
19 which PAHs exposed to UV sunlight can become more toxic), toxicity exists at a
20 concentration level of 0.5 ppb, and that low levels of toxic PAHs are "invisible to
21 satellite/areal detection methods." The paper also states that "recent studies revealed that
22 toxicity to early-life-stage organisms may occur at much lower concentrations because of
23 the combined effect of PAH and UV, which increases the toxicity by 10- to 200-fold
24 compared to PAH alone, as well as due to cardiac toxicity and developmental
25 abnormalities at similarly low PAH levels." NRDA data cited by the authors (at note 4,
26 table 4.3-4) shows a 50% mortality rate for bay anchovies at a UV-adjusted PAH level of
27 0.1 ppb and for other species in a range of 0.2 ppb to 2.9 ppb.

CERTIFICATE OF SERVICE

I, Juli Farris, hereby certify that on April 20, 2020, I electronically filed the foregoing with the Clerk of the United States District Court for the Central District of California using the CM/ECF system, which shall send electronic notification to all counsel of record.

/s/ Juli Farris